



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1301; Project Identifier MCAI-2021-01447-T; Amendment 39-22412; AD 2023-07-10]

RIN 2120-AA64

Airworthiness Directives; Viking Air Limited (Type Certificate Previously Held by Bombardier, Inc.; Canadair Limited) Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 96-12-11, which applied to all Canadair Model CL-215-1A10 airplanes. AD 96-12-11 required repetitive inspections to detect discrepancies of the microswitches fitted at the water door actuator; replacement of any discrepant microswitch; and modification of the water door actuator switches, which terminates the repetitive inspections. This AD continues to require the modification of the water door actuator switches. This AD also requires modification of the water door solenoid valve common grounds, adds airplanes to the applicability, and specifies a parts installation limitation for the water door solenoid valve. This AD was prompted by reports of uncommanded opening of the water doors during flight and water scooping. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1301; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact Viking Air Limited, 1959 de Havilland Way, Sidney, British Columbia V8L 5V5, Canada; telephone +1-250-656-7227; fax +1-250-656-0673; email acs-technical.publications@vikingair.com; website [vikingair.com](https://www.vikingair.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1301.

FOR FURTHER INFORMATION CONTACT: Thomas Niczky, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 96-12-11, Amendment 39-9653 (61 FR 28734, June 6, 1996) (AD 96-12-11). AD 96-12-11 applied to all Canadair Model CL-215-1A10 airplanes. AD 96-12-11 required repetitive inspections to detect discrepancies of the microswitches fitted at the water door actuator, replacement of any discrepant microswitch, and a terminating action for the repetitive inspections. The FAA issued AD 96-12-11 to address a possible uncommanded opening of the water doors, especially at high speed during a takeoff run, a water pick-up run, or a landing run, which could cause serious damage to the airplane.

The NPRM published in the *Federal Register* on October 27, 2022 (87 FR 65016). The NPRM was prompted by AD CF-2021-51, dated December 21, 2021, issued by Transport Canada, which is the aviation authority for Canada (referred to after this as the MCAI). The MCAI states that mandating the modification of the water door actuator microswitches, in lieu of the previous repetitive inspections, will provide a more robust water door design that will better mitigate the risk of uncommanded water door opening. Also, it has been determined that modifying the water door solenoid valve common grounds will mitigate the risk of corroded or contaminated electrical contact leading to a sneak path and subsequent uncommanded opening of the water doors.

In the NPRM, the FAA proposed to continue to require the modification of the water door actuator switches. The FAA also proposed to require modification of the water door solenoid valve common grounds, add airplanes to the applicability, and prohibit the installation of certain water door solenoid valve selector assemblies. The FAA is issuing this AD to address the uncommanded opening of water doors, which, at

high speed during the take-off run, water pick-up run, or landing run, could cause serious damage to the airplane.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1301.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from Bridger Aerospace. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Incorporate Global Alternative Method of Compliance (AMOC) and Remove Parts Installation Prohibition

Bridger Aerospace (Bridger) requested that the requirements in Global AMOC No. AARDG 2022/A33 issued by Transport Canada be incorporated into the proposed AD by mandating that design change Mod CL/0076, as specified in Viking Technical Bulletin V215-3214, be incorporated if the part number (P/N) 362-0377 valve is to be used as a replacement. Bridger stated that the additional backup protection provided by this EMF kit is "very conclusive in addressing the possibility of reoccurrence." In addition, Bridger Aerospace requested that the statement that P/N 362-0377 cannot be used as a replacement part specified in paragraph (i) of the proposed AD be removed. Bridger Aerospace stated that P/N 362-0377 can be used in other locations of the airplane (e.g., main and auxiliary hydraulic system, landing gear extension/retraction, and nosewheel steering) that do not require backup EMF protection. Bridger Aerospace also stated that the replacement P/N 20P16-2 has an exorbitant cost and are unavailable for up to eight months.

The FAA agrees that P/N 362-0377 can be used in other locations of the airplane other than the water door and agrees to incorporate the intent of Transport Canada's approved Global AMOC No. AARDG 2022/A33 into this AD. This allows the water door solenoid valve selector assembly, P/N 362-0377, to be used as a replacement part if

it has been modified in accordance with Viking Technical Bulletin V215/0713, Revision A, dated June 20, 2022; or Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022. Paragraph (i) of this AD has been changed to allow P/N 362-0377 to be used as a replacement part as long as it has been modified in accordance with Viking Technical Bulletin V215/0713, Revision A, dated June 20, 2022; or Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022.

In addition, paragraph (i)(2) of this AD further requires that airplanes installed with this modification must revise their existing maintenance or inspection program, as applicable, to incorporate the information specified in Viking Temporary Revision 25-27, dated April 13, 2022, for Chapter 25-70-00 of the Viking CL-215 Maintenance Manual, PSP 292. Paragraph (i) of this AD has also been changed to allow water door solenoid valve, 4-way selector valve, P/N 20P16-2, specification control drawing (SCD) 215T92392-2, or superseding part with internal back electro-motive force (EMF) protection on which the design change modification specified in Viking Technical Bulletin V215/0713, Revision A, dated June 20, 2022; or Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022; is incorporated as replacements parts.

In addition, paragraph (j)(2) of this AD has been added to provide credit if modifications were done prior to the effective date of this AD in accordance with Viking Technical Bulletin V215/0713, dated April 14, 2022; or Viking Technical Bulletin V215/3214, dated April 14, 2022.

Request to Require Modification of Existing Valves

Bridger requested that the proposed AD be changed to require P/N 362-0377 valves currently installed in the water door system to be modified within 24 months. Bridger stated this modification will assure the water door system has the maximum level of safety to not have any more uncommanded door openings.

The FAA does not agree with requiring a modification to the P/N 362-0377 valves currently installed in the water door system. The actions required by this AD address the identified unsafe condition. However, operators may elect to modify these parts in accordance with Viking Technical Bulletin V215/0713, Revision A, dated June 20, 2022; or Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022. This AD has not been changed with regard to this request.

Additional Changes Made to this Final Rule

The FAA reviewed Viking Service Bulletin 215-389, Revision 3, dated February 15, 2023, which limits the effectivity to Model CL-215-1A10 airplanes because Model CL-215-6B11 (CL-215T Variant) airplanes already have an equivalent modification incorporated. Viking Service Bulletin 215-389, Revision 3, dated February 15, 2023, does not revise the modification procedures. Therefore, the FAA revised paragraph (g) of this AD to specify that only Model CL-215-1A10 airplanes are affected. The FAA has also revised paragraph (g) of this AD to refer to Viking Service Bulletin 215-389, Revision 3, dated February 15, 2023. In addition, Viking Service Bulletin 215-389, Revision 2, dated September 21, 2021, was added as credit to paragraph (j) of this AD.

In addition, the FAA determined that the retained compliance time specified in paragraph (g) of this AD should not apply to airplanes on which the modification specified Canadair Service Bulletin 215-389, dated November 15, 1988, has been done because those airplanes would be immediately out of compliance with the requirements as specified in paragraph (g) of the proposed AD. Those airplanes were previously in compliance with AD 96-12-11 as specified in Note 2 to paragraph (d) of AD 96-12-11. However, Canadair Service Bulletin 215-389, dated November 15, 1988, is no longer acceptable for compliance for this AD. Therefore, those operators must accomplish additional actions using a later revision of Canadair Service Bulletin 215-389, dated

November 15, 1988. The FAA has revised the compliance time in paragraph (g) of this AD to allow 2 years after the effective date of this AD to do the modification, which corresponds to the compliance time specified in Part I of Transport Canada AD CF-2021-51, dated December 21, 2021. The FAA has determined that the compliance time represents the maximum interval of time allowable for the affected airplanes to continue to safely operate before the modification is done.

Conclusion

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

Viking Air Limited has issued Viking Service Bulletin 215-389, Revision 3, dated February 15, 2023. This service information describes procedures for modifying the water door actuator switches, which includes replacing the water door actuator microswitches, installing a relay channel and relays, and modifying related wiring.

Bombardier has issued Alert Service Bulletin 215-A497, dated November 16, 1998. This service information describes procedures for installing two additional water door solenoid common grounds, as well as inspecting the existing ground studs for corrosion and cleaning if necessary.

Viking Air Limited has issued Viking Technical Bulletin V215/0713, Revision A, dated June 20, 2022. This service information provides instructions to install terminal rails and terminal modules with Zener-diodes to suppress back-electro-motive force (EMF) in Viking Air Limited Model CL-215-1A10 airplanes.

Viking Air Limited has issued Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022. This service information provides instructions to install terminal rails and terminal modules with Zener-diodes to suppress back-EMF in Viking Air Limited Model CL-215-6B11 (CL-215T Variant) airplanes.

Viking Air Limited has issued Viking Temporary Revision 25-27, dated April 13, 2022. This service information describes procedures in Chapter 25-70-00 for the Mod CL/0076, Water Drop System – Hydraulic Solenoid Electrical Back-EMF Protection.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 6 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Retained actions from AD 96-12-11	40 work-hours X \$85 per hour = \$3,400	\$10,038	\$13,438	\$26,876 (2 airplanes)
New actions	2 work-hours X \$85 per hour = \$170	\$108	\$278	\$1,668

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator.

Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

a. Removing Airworthiness Directive (AD) 96-12-11, Amendment 39-9653

(61 FR 28734, June 6, 1996); and

b. Adding the following new AD:

2023-07-10 Viking Air Limited (Type Certificate Previously Held by Bombardier, Inc.; Canadair Limited): Amendment 39-22412; Docket No. FAA-2022-1301; Project Identifier MCAI-2021-01447-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 96-12-11, Amendment 39-9653 (61 FR 28734, June 6, 1996) (AD 96-12-11).

(c) Applicability

This AD applies to all Viking Air Limited (Type Certificate previously held by Bombardier, Inc.; Canadair Limited) Model CL-215-1A10 and CL-215-6B11 (CL-215T Variant) airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 25, Equipment/furnishings.

(e) Reason

This AD was prompted by reports of uncommanded opening of the water doors during flight and water scooping. The FAA is issuing this AD to address the uncommanded opening of water doors, which, at high speed during the take-off run, water pick-up run, or landing run, could cause serious damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Modification of Microswitches, with Revised Service Information and a New Compliance Time

This paragraph restates the requirements of paragraph (d) of AD 96-12-11, with revised service information and a new compliance time. For Model CL-215-1A10 airplanes: Within 24 months after the effective date of this AD, modify the water door microswitches in accordance with Viking Service Bulletin 215-389, Revision 3, dated February 15, 2023.

(h) New Requirement of this AD: Installation of Common Grounds

Within 24 months after the effective date of this AD, install two new water door solenoid valve common grounds in accordance with the Accomplishment Instructions of Bombardier Alert Service Bulletin 215-A497, dated November 16, 1998.

(i) Parts Installation Limitation

(1) As of the effective date of this AD, only the parts identified in paragraphs (i)(1)(i) through (iii) of this AD are allowed for use as a replacement part for the water door solenoid valve.

(i) Water door solenoid valve, selector assembly, part number (P/N) 362-0377, on which the design change modification specified in Viking Technical Bulletin V215/0713, Revision A, dated June 20, 2022; or Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022; is incorporated.

(ii) Water door solenoid valve, 4-way selector valve, P/N 20P16-2, specification control drawing (SCD) 215T92392-2, or superseding part with internal back electromotive force (EMF) protection.

(iii) Water door solenoid valve, 4-way selector valve, P/N 20P16-2, SCD 215T92392-2, or superseding part with internal back EMF protection on which the design change modification specified in Viking Technical Bulletin V215/0713, Revision A,

dated June 20, 2022; or Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022; is incorporated.

(2) For airplanes on which a part identified in paragraph (i)(1)(i) or (iii) of this AD is installed: Before further flight after installation, revise the existing maintenance or inspection program to incorporate the information for Chapter 25-70-00 specified in Viking Temporary Revision 25-27, dated April 13, 2022, into the Viking CL-215 Maintenance Manual, PSP 292.

(j) Credit for Previous Actions

(1) This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using Canadair Service Bulletin 215-389, Revision 1, dated September 30, 1991, including the retrospective action for aircraft modified in accordance with Canadair Service Bulletin 215-389, dated November 15, 1988; or Viking Service Bulletin 215-389 Revision 2, dated September 21, 2021.

(2) This paragraph provides credit for actions required by paragraphs (i)(1)(i) and (iii) of this AD, if those actions were performed before the effective date of this AD using Viking Technical Bulletin V215/0713, dated April 14, 2022; or Viking Technical Bulletin V215/3214, dated April 14, 2022.

(k) Other FAA AD Provisions

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-

5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (Transport Canada); or Viking Air Limited's Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(l) Additional Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Transport Canada AD CF-2021-51, dated December 21, 2021, for related information. This Transport Canada AD may be found in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1301.

(2) For more information about this AD, contact Thomas Niczky, Aerospace Engineer, Avionics and Electrical Systems Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7347; email 9-avs-nyaco-cos@faa.gov.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Bombardier Alert Service Bulletin 215-A497, dated November 16, 1998.

(ii) Viking Service Bulletin 215-389, Revision 3, dated February 15, 2023.

(iii) Viking Technical Bulletin V215/0713, Revision A, dated June 20, 2022.

(iv) Viking Technical Bulletin V215/3214, Revision A, dated June 20, 2022.

(v) Viking CL-215 Maintenance Manual, PSP 292, Temporary Revision 25-27, dated April 13, 2022.

(3) For service information identified in this AD, contact Viking Air Limited, 1959 de Havilland Way, Sidney, British Columbia V8L 5V5, Canada; telephone +1-250-656-7227; fax +1-250-656-0673; email acs-technical.publications@vikingair.com; website vikingair.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on April 8, 2023.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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